REMARKS

Claim Amendments

Claim 34 is not amended, but a paragraph break is inserted after the semicolon in line 2.

Claim 41 is amended merely to change "ofthe" to "of the" in line 3.

Claim 43 is amended to change "at" to the broader term "adjacent" in lines 5 and 7.

Newly added independent claim 44 is similar to claim 43, but with a slightly different definition of the two beveled surfaces.

Newly added dependent claim 45 is similar to the first three paragraphs of claim 37.

Newly added dependent claim 46 is similar to claim 45, except that it does not recite a second recess portion, and it recites that the recess is contiguous with the *entire* first side of the aperture as in the embodiment shown in Figure 3B.

Newly added dependent claims 47 and 48 are similar to claims 33 and 34, respectively.

Claims 36, 39 and 42: Allowable Subject Matter

The Examiner stated that claims 36, 39 and 42 would be allowed if rewritten in independent form. For the reasons set forth below, Applicant believes claims 31 and 40, from which these claims depend, also are allowable. Therefore, Applicant is not rewriting claims 36, 39 and 42 in independent form at this time.

Claims 31–35: Anticipation Rejection over Comita

Independent claim 31 and dependent claims 32–35 are directed to a cylindrical chamber liner having: (1) an aperture extending between the inner and outer surfaces of the liner, and (2) a recess in the outer surface that is contiguous with the aperture. An advantage of the claimed recess being contiguous with the aperture is that the recess can house a door that can slide between the recess and the aperture when the aperture is to be open and closed, respectively.

Claims 31–35 were rejected under 35 USC 102(e) as anticipated by US Patent 5,914,050 to Comita et al. The Examiner asserted that Comita's cylindrical liner has a recess 34 that is contiguous with aperture 38.

The Examiner's interpretation of Comita is mistaken because Comita's recess 34 clearly is ***not*** contiguous with the aperture 38.

To understand Comita's drawings, it is important to recognize that Comita's Figures 3 and 4 are not two different embodiments of liners; they are two views of the same liner rotated 180° (column 2, lines 5–9 and 50–51). Figures 3 and 4 both show small recesses 32 near the clockwise side of aperture 38 and a larger recess 34 near the counterclockwise side of aperture 38. The aperture 38 is hidden from view in Figure 4, but its position between recesses 32 and 34, below the arrow 26, can be deduced from the fact that the aperture 38 is diametrically opposite from the thermocouple 40, which is visible in both figures but labeled only in Figure 4.

Figure 3 shows a wall at the clockwise side of aperture 38 that separates aperture 38 from the closest one of the recesses 32, so it is clear that the clockwise side of aperture 38 is not contiguous with any recess 32. The counterclockwise side of aperture 38 is hidden from view in Figure 3, leaving it unclear from Figure 3 alone whether the counterclockwise side of aperture 38 is contiguous with recess 34, or whether a wall is interposed between the counterclockwise side of aperture 28 and the closest recess 32. However, Figure 4 does show such a wall at the leftmost edge of the figure. Because the aperture 38 is diametrically opposite the thermocouple 40, it is clear that the aperture 38 is clockwise relative to the wall at the leftmost edge of Figure 4. Therefore, Figure 4 shows that there is a wall between the aperture 38 and the recess 34, so that the aperture and the recess are not contiguous.

Figures 5 and 6 show a different embodiment of a liner. Figures 5 and 6 are two views of the same liner rotated 180°, these two views being from the same perspective as Figures 3 and 4, respectively (column 2, lines 53–55). Like Figures 3 and 4 as just discussed, Figure 5 shows a wall between the clockwise end of aperture 38 and the closest one of recesses 32, and Figure 6 shows a wall between the counterclockwise end of aperture 38 and recess 34.

Because Comita's disclosed cylindrical liner does not have a recess in its outer surface that is contiguous with its aperture, Comita fails to anticipate claim 31. Therefore claim 31 and dependent claims 32–35 are patentable.

Claims 37–38 and 40–41: Obviousness Rejection over Comita

Claims 37–38 and 40–41 were rejected under 35 USC 103 as unpatentable over Comita.

Comita is not prior art under 35 USC 102(a) or (b) because Comita was published after the present application's priority date of July 3, 1998.

Applicant hereby states that the present application and Comita were commonly owned by Applied Materials, Inc. at the time the present invention was made. Accordingly, pursuant to 35 USC 103(c), Comita is not prior art against the present application under 35 USC 103. Therefore, the rejection over Comita under 35 USC 103 should be withdrawn.

Claims 37–38 are dependent on claim 31. Therefore, claims 37–38 are patentable for the same reasons as claim 31, as set forth above.

Claims 40 and 41 are patentable for the reasons set forth immediately below in the discussion of the rejections over Ohkase, Kase and Chiba.

Claims 40 and 41: Rejections over Ohkase, Kase & Chiba

Independent claim 40 and dependent claim 41 are directed to a cylindrical chamber liner having an aperture and first and second beveled outer surface portions adjacent first and second sides of the aperture. Importantly, the first beveled surface (for example, surface 86 in Figure 10) is beveled so that its radial distance from the longitudinal axis of the liner ***decreases*** progressively from adjacent the aperture toward the first end of the liner. The second beveled surface (for example, surface 84 in Figures 9 and 10) is beveled so that its radial distance from the longitudinal axis ***increases*** progressively from adjacent the aperture toward the second end of the liner.

An advantage of the claimed invention is that it is can receive an aperture door that can slide between an open position (shown in Figure 9) and a closed position (Figure 10), wherein the open position of the door is closer to the first beveled surface. The beveling enables the door to be spaced very close to or abutting one or both of the beveled surfaces in the closed position of the door (for example, spacings 88 and 90 in Figure 10), yet be spaced much further from both beveled surfaces (for example, spacing 92 in Figure 9) while it is sliding between the open and closed positions (Figure 9). Maintaining a large spacing from the beveled surfaces while sliding between the open

and closed positions is beneficial because any rubbing between surfaces can create particles that would contaminate the workpiece being fabricated in the chamber. (See the present specification at page 3, third paragraph, and page 8, last paragraph.)

Claims 40 and 41 were rejected under 35 USC 103 as unpatentable over any of PCT publication WO 97/31389 (Ohkase), Japanese patent publication JP 7-254386 (Kase), or Japanese patent publication JP 9-326367 (Chiba). The Examiner cited each of these three references for disclosing a cylindrical liner having an aperture. In addition, the Examiner cited Ohkase for disclosing an arcuate door.

The Examiner did not cite any prior art disclosing the two beveled surfaces of the claimed invention. Instead, the Examiner simply asserted that the bevel shape is "a matter of choice which a person of ordinary skill...would have found obvious absent persuasive evidence that the particular shape was significant."

The preceding paragraphs of this section explain why the two beveled surfaces as claimed are significant and advantageous. Because this feature is not disclosed or suggested in Ohkase, Kase or Chiba, claims 40 and 41 are patentable.

Claim 43: Rejection over Ohkase

Independent claim 43 is directed to an arcuate slit valve door whose inner surface is beveled at opposite ends of the door so that the beveled surface at one end of the door includes the radially innermost portion of the inner surface of the door (for example, surface 66 in Figure 8) and the beveled surface at the other end of the door includes the radially outermost portion of the inner surface of the door (for example, surface 62 in Figure 8).

The beveled door of claim 43 is advantageous for the same reasons as the beveled chamber liner of claims 40 and 41, described above. Specifically, the beveling enables the door to be spaced very close to or abutting corresponding surfaces of a chamber liner when the door is in its closed position (for example, spacings 88 and 90 in Figure 10), yet be spaced much further from the liner surfaces (for example, spacing 92 in Figure 9) while the door is sliding between the open and closed positions (Figure 9). Maintaining a large spacing between the door and the liner while the door is

sliding between the open and closed positions is beneficial because any rubbing between surfaces can create particles that would contaminate the workpiece being fabricated in the chamber. (See the present specification at page 3, third paragraph, and page 8, last paragraph.)

Claim 43 was rejected under 35 USC 103 as unpatentable over PCT publication WO 97/31389 published 8/28/1997 (Ohkase). The Examiner cited Ohkase for disclosing an arcuate door, but the Examiner did not cite any prior art disclosing the two beveled surfaces of the claimed invention. Instead, the Examiner simply asserted that the bevel shape is "a matter of choice which a person of ordinary skill ... would have found obvious absent persuasive evidence that the particular shape was significant."

The preceding paragraphs of this section explain why the claimed bevel shape is significant and advantageous. Because this feature is not disclosed or suggested in any of the prior art, claim 43 is patentable.

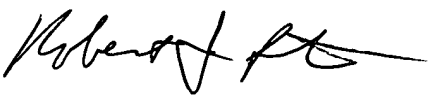
Claim 44

Newly added independent claim 44 is similar to claim 43 and is allowable for the same reasons as claim 43.

Claims 45–48

Newly added claims 45–48 are dependent on claim 31; hence they are allowable for the same reasons as claim 31.

Respectfully submitted,



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